

REMARKS/ARGUMENTS

Claims 1-12 and 23-24 are active. Claims 13-22 have been withdrawn from consideration. New claim 24 finds support in the Examples and further limits claim 1. The Applicants respectfully request that this after-final Amendment be entered to place this application in condition for allowance or in better condition for appeal. The proposed amendments do not raise new issues or necessitate a new search by the Examiner, since the amendment is based on elements earlier claimed or inherent in the previously examined claims. Entry of this Amendment would also permit the Applicants to respond to any new arguments raised in the final rejection. No new matter has been added. Entry and favorable consideration of this Amendment is respectfully requested.

The Applicants thank Examiners Sullivan and Richter for the courteous and helpful interview of April 7, 2009. The Applicants urged that Maeda did not suggest selection of an alkoxyolated glyceride as opposed to some other carrier or surfactant. The experimental data of record was reviewed. The Applicants were encouraged to point out or explain that any superior and surprising results were commensurate in scope with the claims to avoid the rejection based on Maeda. For example, it was suggested that the Applicants (A) explain why *Citowett* and *Frigate*, used as comparative dispersants in the Examples, represented the effects of using surfactants other than the alkoxyolated glycerides of the invention. The Applicants were also asked to point out why the (B) different sulfonylurea or (C) different alkoxyolated glycerides exemplified in the specification reasonably represented the corresponding genuses of compounds described in the claims.

Restriction/Election

The Applicants previously elected with without traverse **Group I**, claims 1-12, directed to a composition comprising a sulfonylurea and an alkoxyolated glyceride. The

Applicants respectfully request that the claims directed to any non-elected subject matter which depend from or otherwise include all the limitations of an allowed elected claim, be rejoined and allowed upon an indication of allowability for the elected claim, see MPEP 821.04.

Objection

Claim 23 was objected to as containing an informality. This issue is now moot.

Rejection—35 U.S.C. §112, second paragraph

Claim 2 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite. This rejection is moot in view of the amendment above.

Rejection—35 U.S.C. §103(a)

Claims 1-12 and 23 were rejected under 35 U.S.C. §103(a) as being unpatentable over Maeda, et al., U.S. Patent No. 5,830,827. This document does not render the present invention obvious because it provided no motivation to select the particular combination of sulfonylurea herbicide and alkoxyolated glyceride. The experimental data in the specification show that a representative number different sulfonylurea herbicides have significantly increased herbicidal activity when admixed with numerous different alkoxyolated glycerides, but much less activity when admixed with other non-ionic surfactants (e.g., *Citowett*) or *Tween-20*; or cationic surfactants (e.g., *Frigate*). Maeda fails to suggest the selection of a alkoxyolated glyceride surfactant and does not provide a reasonable expectation of success for the enhanced herbicidal properties of such a selection.

Maeda is directed to the combination of flazasulfuron, a chemical stabilizer, and a carrier (coadjuvants). The bottom of page 4 of the OA indicates that “Maeda does not

disclose a specific example comprising a surfactant", but asserts that it would have been obvious to add 0.1% to 10% of certain nonionic surfactants to improve the physical properties of a herbicide composition (see col. 5, line 18, which discloses "The amount of surfactants is usually from 0. 1 to 10.0 parts by weight"). However, Maeda, col. 2, line 36-col. 3, line 22, discloses a huge number of different formulants for admixture with a herbicide. There is no specific guidance in Maeda to single out an alkoxylated glyceride for admixture with sulfonylurea herbicide, nor any recognition that this combination would provide a superior herbicidal effect compared to any other combination of the formulants mentioned in cols. 2 and 3. As discussed in the interview, the selection of an alkoxylated glyceride (as opposed to some formulants disclosed by Maeda) provides surprising and superior herbicidal properties.

To further emphasize the superior herbicidal effects of the claimed combination, the Applicants were encouraged to point out the nature of the other surfactants compared to alkoxylated glycerides in the Examples in the specification.

(A) Comparative surfactants. The specification shows these superior herbicidal properties in comparison to the prior art *Citowett* and *Frigate* herbicide surfactants.

Maeda discloses *Citowett* which corresponds to "polyethylene alkylaryl ether" in the second column, line 55 of this patent. Maeda is silent about whether to select an inferior¹ surfactant like *Citowett*, or an alkoxylated glyceride required by the invention.

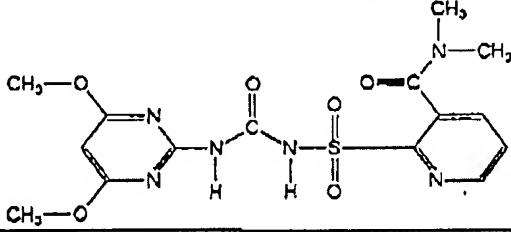
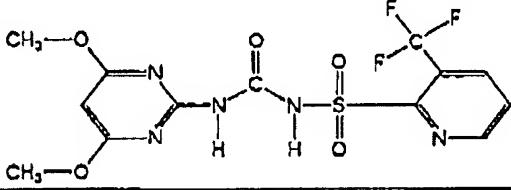
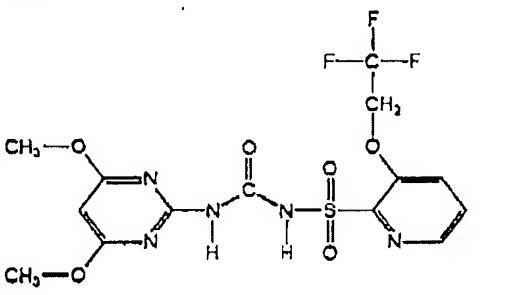
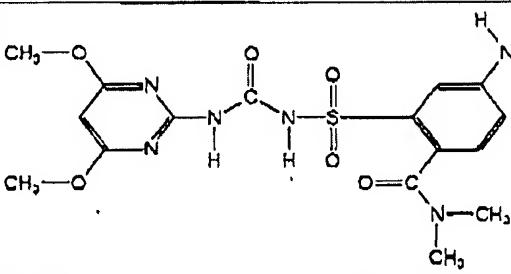
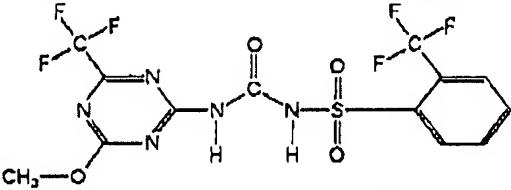
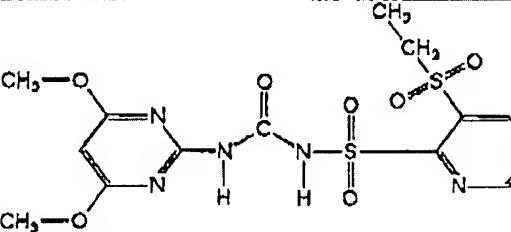
Maeda, col. 2, lines 57-58, also discloses "polyoxyethylene sorbitan fatty acid ester" which corresponds to the comparative surfactant Tween 20 (polyoxyethylene sorbitan monolaurate) described in Test Example 2 of the present application. As shown in Table 2 on page 49, use of *Tween 20* in combination with a sulfonylurea herbicide provided

¹ See the inferior herbicidal properties of combinations using *Citowett* in Table 3 (page 50), Table 4 (page 52), Table 5 (page 53)Table 6 (page 54), etc.

significantly inferior herbicidal effect compared to combinations containing each of the eight different alkoxylated glycerides tested.

Sulfonylurea herbicide combinations including *Frigate*, a cationic surfactant, were also compared to combinations containing alkoxylated glyceride surfactant. This cationic surfactant when mixed with a sulfonylurea herbicide did not provide the significantly superior herbicidal effect of the invention, see e.g., Tables 1, 9 and 14 of the specification.

(B) The superior herbicidal effect is not limited to a single species of sulfonylurea herbicide. The Examples in the specification show that the superior herbicidal effects are obtained for a number of chemically different types of sulfonylurea herbicides and thus provide a representative number of species to support the claimed genus of sulfonylurea herbicides. The table below depicts six different sulfonylurea's (nicosulfuron, flazasulfuron, trifluoxysulfuron, foramsulfuron, trisulfuron and rimsulfuron) used in Examples of the present application. These structures are reasonably representative of the genus of sulfonylurea herbicides and they take into account the variation of chemical structures within this class of herbicides including species representing both the pyridine- and benzene-types of sulfonylurea herbicides (see the ring structures on the right). Accordingly, the Applicants respectfully submit that the Examples in the specification adequately and reasonably represent the genus of sulfonylurea herbicides described by the present claims.

<i>Nicosulfuron</i>	
<i>flazasulfuron</i>	
<i>trifloxyasulfuron</i>	
<i>foramsulfuron</i>	
<i>tritosulfuron</i>	
<i>rimsulfuron</i>	

(C) The superior herbicidal effect is not limited to single species of alkoxylated glycerides. The superior herbicidal properties of the invention are also supported by results

showing that a representative number of different alkoxylated glycerides in combination with a sulfonylurea herbicide provide superior herbicidal properties. For example, Table 1 on page 47 shows the superior properties of combinations including eight different types of alkoxylated glycerides and a sulfonylurea herbicide. Tables 2 and 3 also provide similar comparisons. In order to improve the herbicidal effects of sulfonylurea, a herbicidally active ingredient has to pass through a wax layer in plant leaves to penetrate the interior of the leaves. A sulfonylurea is hydrophilic and has relatively high solubility in water and hardly passes through the more hydrophobic wax layer. The inventors have found that selection of an alkoxylated glyceride allows a sulfonylurea to penetrate the wax layer on leaves and exhibit a herbicidal effect inside the leaf. Not all surfactants provide this property.

In the present application, a surfactant having a structure wherein a fatty acid and glycerol which are similar to vegetable oils and have compatibility with a wax layer are bonded to a hydrophilic polyoxyalkylene is combined with sulfonylurea, whereby the herbicide effect of sulfonylurea can be remarkably improved.

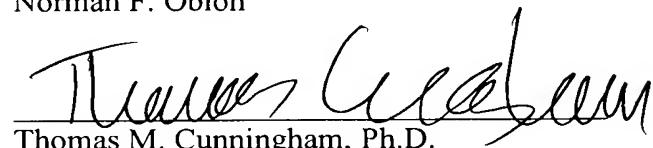
The feature of the present invention is neither described nor suggested by Maeda, which cannot suggest selection of this class of surfactants, nor provide a reasonable expectation of success for this property of alkoxylated glycerides. Moreover, the experimental data of record shows that these superior herbicidal effects are realized for combinations involving representative numbers of chemically distinct species of both sulfonylurea herbicides and alkoxylated glycerides. Accordingly, this rejection may now be withdrawn.

Conclusion

In view of the amendments and remarks above, the Applicants respectfully submit that this application is now in condition for allowance. An early notice to that effect is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon


Thomas M. Cunningham, Ph.D.

Registration No. 45,394

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/07)